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Remarks

Claims 1 to 9 are currently pending in the present application.

Claims 1 to 9 currently stand as being rejected under 35 USC 103, as being obvious in view of the cited prior art, and in particular, US Patent No. 4341805 (Chaudhary). The Applicant respectfully traverses this objection and provides the following comments.

First though, the Applicant notes that the paragraph numbering in the application as originally filed was in error in that paragraph numbers 17 to 24 were used twice. As such, reference herein to paragraphs of the application will either refer to the paragraph numbers of published US patent publication No. 20050147725.

The Applicant apologizes for any confusion in the earlier response.

Rejection under 35 USC 103

Claims 1 to 9 currently stand as being rejected under 35 USC 103(a) as being obvious in view of Chaudhary.

It is noted that Chaudhary describes the use of a high dietary fiber product which is derived from "brewer's spent grain", and which is used in food products. However, it is noted that the method, and resultant products from Chaudhary, require the brewer's spent grain to be dried to less than 12% moisture, ground to less than 600 microns, and then classified to produce products having different particle size. As described by Chaudhary at column 1, lines 56 to 57, the product is to be "separated into several marketable fractions. The fractions are of commercial value as either a source of protein for human consumption or as a source of dietary fiber for the human diet".

As such, Chaudhary provides a technique wherein the brewer's spent grain is processed to provide different fractions, and then those fractions are used in different applications.

Accordingly, in all of the embodiments described by Chaudhary, and in the Example, the ground spent brewer's grain is classified (or fractionated) in order to provide different fractions which could be used in different applications.

However, in the present invention, there is no attempt to divide or classify the spent grain prior to use. Instead, other than drying the material, the spent grain is used as is in an un-

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fractionated, or unclassified form. This is clear from a reasonable reading of the present application.

Further, while the un-fractionated material of the present invention might be used in different ways, it is always an un-fractionated material. For example, in published paragraphs 49 and 50 of the present application, it is specifically taught that if the fiber-based baking ingredient of the present invention is to be employed as a low moisture baking additive then it will be relatively high in fiber and protein, and low in moisture. However, if it is to be employed as a high moisture baking additive then it will be relatively low in fiber, high in protein and high in moisture. These paragraphs are reproduced herein:

[0049] If the fiber-based baking ingredient of the present invention is to be employed as a low moisture baking additive, then typically it will comprise from 50% to 70% of fiber, and it will be high in protein while low in moisture.

[0050] If, the other hand, the fiber-based baking ingredient of the present invention is to be employed as a high moisture baking additive, then typically it will comprise from 20% to 25% of fiber, while it will be high in protein and high in moisture.

These paragraphs do not suggest fractionation; they merely teach that the moisture content of the fiber-based baking ingredient will be adjusted depending on whether the baking ingredient is used as a high or low moisture baking additive. There is no contemplation of fractionation of the spent brewer's grain as described by Chaudhary, or to provide any limitation on the source of material from which the fiber-based baking ingredients of the present invention are initially derived.

As such, it can clearly be noted that the present invention is directed to products wherein the spent brewer's grain is used in an "un-fractionated" state. While the exact language of "un-fractionated" is not present in the application as filed, it is clear from a reasonable reading of the application as filed, that this concept is clearly described. As such, the word "un-fractionated" clearly describes the product of the present invention, and clearly distinguished the current

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product from the products of Chaudhary.

The Examiner comments on page 2 of the Office Action, that if "the components [of the material] are not the same, it would have been obvious to one skilled in the art to fractionate the spent grain to obtain fractions having any selected additional components.". The Examiner should be aware that it is exactly this approach which is to be avoided by use of the present invention. The Applicant seeks to avoid the need for grinding and classification of the spent brewer's grain material, and instead, wishes to use the entire material.

As such, the purpose of the present invention is to provide a nutritional and energy reduced fiber-based baking ingredient which is intended for use by the baking industry, and which, in particular, provides a low glycemic index food material. It has therefore been recognized in the present application, that such a low glycemic index food material can be easily and simply provided through the use of an un-fractionated spent grain. In contrast, Chaudhary fractionates the brewer's spent grain in order to provide materials with either a high protein content, or with a high fibre content. However, Chaudhary is silent as to the possibility of providing a low glycemic index food material for baked goods, or the like, wherein an un-fractionated spent brewer's grain is utilized.

Further, the product of the present invention has very specific formulations, namely that it contains from 20% to 30% crude protein, from 50% to 80% fiber, with up to 15% crude fat and up to 2% of additional nutritional components, on a dry basis. The percentage values of the components used in the various formulations may change depending on the moisture content, however, the dry basis level ranges remain constant.

Further, the addition of various materials to adjust pH, or the like, is largely immaterial. The key feature of the present invention is the use of the un-fractionated spent grain, and the impact it has on providing baked products having a low glycemic index. This fact is not recognized by Chaudhary, and, in fact, Chaudhary leads away from the use of an un-fractionated product in order to provide material which are either high in protein, or high in fibre.

The Applicant suggest that the Examiner has not fully appreciated that the cited patent of Chaudhary requires that the brewer's spent grain must be fractionated or separated into several fractions, while the present invention does not. Again, it is to be emphasized that it is taught that

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the finest fractions of the Chaudhary material, after grinding, have the highest percentage of protein, and that the coarsest fractions contain the highest percentage of dietary fiber. There is no discussion of the use of an un-fractionated material, or the beneficial effects of the use of such a material to provide a low glycemic index baking product.

Further, in Chaudhary, apart from the mention of the use of the high fiber fraction in baked products, the cited patent suggests only the use of high fiber *fractions* in extruded food products, and high protein fractions in snack and baked products. As such, it cannot be seen how any person skilled in the art would be led to the present invention upon reading the Chaudhary patent. It also cannot be seen how the ordinary person skilled in the art would read the specification and claims of the present application as if the present application proposed the use of an *un-fractionated* by-product from the brewing or distilling industries without the manipulations described by Chaudhary, in order to obtain the formulations which are claimed herein.

It is noted that the claimed fiber-based baking ingredient is derived from specified cereal grains, namely wheat, barley, rye, corn, rice, oats, flax, and mixtures thereof; and that the claimed fiber-based baking ingredient is initially derived as an un-fractionated by-product from the brewing or distilling industries. Further, the fiber-based baking ingredient is intended for use solely by the baking industry, and has specific ranges of protein, fiber, crude fat, and additional nutritional components. The fiber-based baking ingredient has a reduced glycemic index. It is a recognition of the fact that this material can be utilized without any significant additional processing, and in particular, without grinding or fractionating the material, coupled with the recognition that the fiber-based baking ingredient provides have specific ranges of those protein, fiber, crude fat, and nutritional components, which distinguishes this invention from the prior art.

This approach is neither taught or suggested in the Chaudhary document. Accordingly, the Applicant contends that the present application is allowable, and that the objection under 35 USC 103(a) should be withdrawn.

Summary

The Applicant contends that the present invention is differentiated over the cited prior art in that an un-fractionated spent brewer's grain material is utilized to produce the baking ingredient

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of the present invention. As a result, a material having a low glycemic index is provided.

In contrast, the cited prior art describes the grinding and fractionation of the spent brewer's grain in order to provide materials which are suitable to increase the protein or fibre content of the final product. It is silent as to the use of these materials for reducing the glycemic index of the final product. As such, it cannot make the present invention obvious.

It is believed that with these comments, a full and complete response to the Office Action has now been submitted. Further, it is believed that the present application is now in condition for allowance. As such, reconsideration and allowance of the present application at the earliest opportunity are respectfully solicited.

However, should there be any remaining issues, or issues requiring further clarification, the Examiner is requested to contact the undersigned by telephone in order to discuss or clarify any outstanding issues.

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